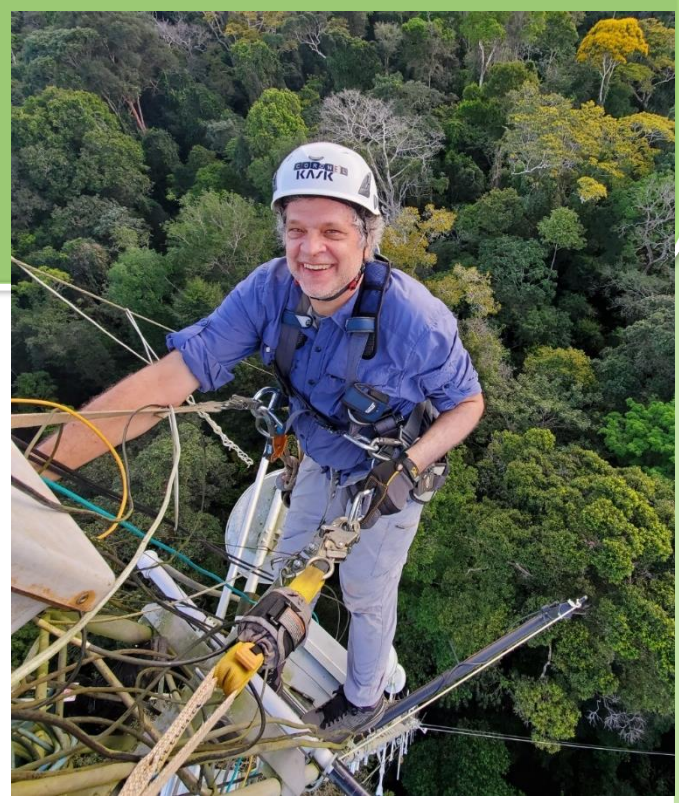
The University of Hong Kong
School of Biological Sciences

Guest Seminar

The biogeography of Amazon forest vulnerability and resilience to droughts



Date: May 9, 2024

Time: 1500 - 1600

Venue: 3N-01, KBSB

About the speaker:

Dr. Scott Saleska is a Professor of Ecology & Evolutionary Biology at the University of Arizona. He earned his B.Sc in Physics from MIT and his Ph.D. in Energy and Resources from UC-Berkeley. His research focuses on "biogeochemical ecology," exploring the interactions between climate, plant physiology, and ecological processes that influence biogeochemical cycling. He is a globally renowned tropical ecologist and has been an ESA fellow since 2019.

Abstract:

Amazon tropical forests are the largest on earth, but Amazon carbon sinks for atmospheric CO2 appear to be declining in association with deforestation and climate change-associated droughts, threatening to push forests past a tipping point towards forest collapse. Better understanding of forest responses to drought are urgently needed, but past responses have been complex and heterogeneous across landscapes, including both substantial positive (photosynthetic “greening”) and negative (browning and tree mortality) responses that are difficult to explain by climate forcing alone. Here, I will present a new approach for combining forest plot data and remote-sensing of Amazon forest photosynthetic response with ground-based tree demography to identify a "biogeography" of Amazon forest drought response that emerges from different forest ecotypes across the basin. This new functional biogeography of drought response provides a framework for conservation decisions and improved predictions of complex forest responses to future climate changes, and that longer and more frequent droughts are undermining ecohydrological strategies and capacities for Amazon forest resilience.

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